

REMARKS

Claims 17-38 are pending in this application. Claims 1-16 and 22 have been cancelled. Claims 17, 20-21 and 24 are currently amended for clarification and to address objections by the Examiner under 35 U.S.C. §132(a). Claims 25 and 26 were previously presented. Claims 18, 19 and 23 are original. New claims 27-37 have been added. Seventeen dependent claims and three independent claims remain.

Applicant confirms that the telephone election to the restriction requirement by the Examiner earlier in this application was made without traverse. A statement to the contrary in the earlier response was in error.

The specification is amended herein to correct an inconsistency in reference numerals between the description and the drawings. No new matter has been introduced.

Claims 1-16 have been cancelled from this application in favor of the divisional application noted by the Examiner (Application No. 11/104,748), thus rendering moot any issue of double patenting between these applications under 35 U.S.C. §101.

Applicant notes the provisional double patent rejections between claims 24-26 of this application and claims 17, 19 and 20 of co-pending Application No. 10/987,445.

Claim 20 is rejected under 35 U.S.C. §112, first paragraph, as containing subject matter not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention. We respectfully traverse, noting that, in the description, at page 10, line 22, the term "insert" and "housing" are used interchangeably, i.e. "hollow housing or insert 125." As a result, claim 20 is directed to a plug of a first material and an insert (housing) of a second material, as clearly described in the application as filed, e.g., as page 11, lines 9-11 and 16-17. In any event, the language of original claim 20, now incorporated into claim 17, is rewritten to clarify that reference is made to the plug and to the housing. Claim 20 is also rewritten.

Claims 17-19 and 24-26 are rejected under 35 U.S.C. §102(b) as being anticipated by Waller U.S. 4,044,991. Claims 17-19 and 24-26 are also rejected under 35 U.S.C.

§102(b) as being anticipated by Smith U.S. 3,095,006. Claims 21 and 22 are rejected under 35 U.S.C. §103(a) as being obvious and therefore unpatentable over Waller '991 in view of Bryant U.S. 2,323,115. Claim 23 is rejected under 35 U.S.C. §103(a) as being obvious and therefore unpatentable over Waller '991 or Smith '006 in view of Pett U.S. 3,934,812. We respectfully traverse.

As amended, independent claims 17 and 24 each recite a housing defining an elongated conduit having a water-channel thread, and an axially elongated plug received into said conduit, with a surface of said plug opposed to the water-channel thread of said housing. The surface of the plug is in sealing engagement within the conduit and the water-channel thread and the surface cooperatively define a liquid flow path. In addition, the plug is made of a material that is softer than a material of the housing and sealing engagement comprises penetrating engagement of the water-channel thread of the housing with the surface of the plug. The surface of the plug, therefore, is smooth prior to being screwed into the housing.

Waller '991 does not teach or suggest a plug having a smooth surface penetrated by a thread of a housing, wherein the housing is made of a material that is harder than a material of the plug. Instead, Waller '911 describes opposed, inter-engaged screw threads. Referring to FIGS. 2 and 4 of Waller '911, for example, a valve body 12 is formed with a generally frustoconical wall section between the inlet flange and the outlet and has a continuous helical land 28 and groove 30 formed on the inside surface. A valve member 32 is formed with a continuous helical land 46 and groove 48 dimensioned to loosely interfit with the land 28 and groove 30 on the inside wall surface of the valve body 12. The interfitting land of one member projecting in the groove of the other and vice versa form a continuous helical flow passage extending between the inlet and the outlet 16 of the valve for controlling the flow of fluid as it expands. Waller '911 does not teach, and does not suggest, that the valve body 12 and the valve member 32 are made of different materials.

Smith '006 also does not teach or suggest a plug having a smooth surface penetrated by a thread of a housing, wherein the housing is made of a material that is harder than a material of the plug. Instead, Smith '066 shows a flow restriction device 10

including a housing 12 having inner threads 72 and an insert 34 having outer threads 70 that mesh with the threads of the housing to form helical fluid passages 74, 76 (see FIG. 3 of Smith '006). Smith '006 does not teach or suggest a plug having a smooth surface penetrated by a thread of a housing, wherein the housing is made of a material that is harder than a material of the plug.

Pett '812 also does not teach or suggest a plug having a smooth surface penetrated by a thread of a housing, wherein the housing is made of a material that is harder than a material of the plug. Instead, Pett '812 simply shows a flow restrictor 32 having a stem 42 formed with male threads 44, 46 received in female threads 50 of a chamber 34 to form a spiral passage 58. Pett '812 does not teach , and does not suggest, that the stem 42 and the chamber 34 are made of different materials.

Bryant '115 also does not teach or suggest a plug having a smooth surface penetrated by a thread of a housing, wherein the housing is made of a material that is harder than a material of the plug. Instead, Bryant '115 shows an apparatus having an orifice device 16 comprising an outer member 17 and an inner member 18. Either, or both, of the members are threaded to provide a helical viscous orifice or flow passage 21. (See col. 3, lines 17-22 and FIGS. 1-4, and see col. 3, line 61 through col. 4, line 12.) Accordingly, Bryant '115 teaches that a plug can be provided with a smooth surface (i.e., no threads). However, Bryant '115 does not teach or suggest opposed surfaces having different hardness, and penetration of the threads into the smooth surface. The Examiner points to FIG. 3 as "showing" penetration, but the description teaches to the contrary; namely, that FIG. 3 shows two, opposed threads in engagement, with the threads partially removed at one surface to define a helical flow passageway. (See page 2, col. 1, line 73 to col. 2, line 2).

In sum, the references cited, whether considered along or in any proper combination, do not teach or suggest a plug having a smooth surface penetrated by a harder thread of a housing. Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 17-21 and 23-26 (claim 22 having been cancelled). Applicant respectfully further submits that new claims 27-36 are allowable as being dependent upon one of claims 17-21 and 23-26. New independent claim 37 also recites a

Applicant : Craig A. Schmitt  
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Page : 10 of 10

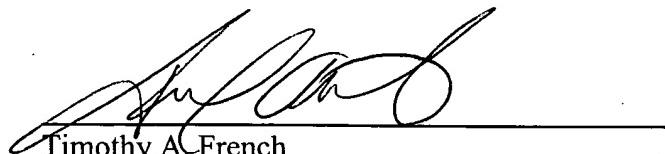
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plug having a smooth surface penetrated by a harder thread of a housing, and is patentable over the cited art. Early favorable action is solicited.

Please apply any charges or credits to deposit account 06-1050.

Respectfully submitted,

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Timothy A. French  
Reg. No. 30,175

Fish & Richardson P.C.  
225 Franklin Street  
Boston, MA 02110  
Telephone: (617) 542-5070  
Facsimile: (617) 542-8906

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